

# Notice of Allowability

Application No.

10/763,890

Examiner

Thomas H. Parsons

Applicant(s)

ADAMSON ET AL.

Art Unit

1745

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 15 August 2005.
2. ☒ The allowed claim(s) is/are 84-170.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***Response to Amendment***

This is in response to the Amendment filed 15 August 2005.

***Specification***

1. The objection to the disclosure because of minor informalities has **been** withdrawn in view of Applicants' Amendment.

***Claim Objections***

2. The objection of claim 32 because of minor informalities has **been** withdrawn in view of Applicants' Amendment.

***Claim Rejections - 35 USC § 102***

3. The rejections of claims 1-6, 8-12, 14, 16, 18, 23-25, 28-31, 33-38, 40-44, 46, 48, 50, 55-57, 60-63 under 35 U.S.C. 102(b) as being anticipated by EP 1 150 367 have been **withdrawn** in view of Applicants' Amendment.

***Claim Rejections - 35 USC § 103***

4. The rejection of claims 7, 13, 15, 17, 19-22, 26-27, 32, 39, 45, 47, 49, 51-54, 58-59, 64-83 under 35 U.S.C. 103(a) as being unpatentable over EP 1 150 367 as applied to claims 1, 4 and 5 above, and further in view of Barker (6,153,333) have been **withdrawn** in view of Applicants' Amendment.

***Allowable Subject Matter***

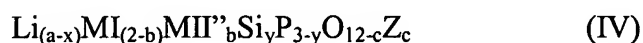
5. Claims 84-170 are allowable over the prior art of record.

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*Reasons for Allowance*

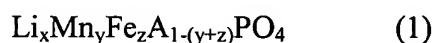
6. Applicant's arguments, see page 24, paragraph 3 through page 26, last line, filed 15 August, with respect to claims 84-170 have been fully considered and are persuasive.

As stated, Barker '333 discloses, among other things, an electrode material having a NASICON structure and represented by the general formula (IV):



wherein, among other things, MI and MII are the same or different and are each elements independently selected from the group of metals and metalloid elements, and Z is a halogen. (See, Barker '333, col. 5, line 32 - col. 7, line 5).

Yamada '367 discloses, among other things, an electrode material having an olivine structure and represented by the general formula (I):



wherein A is at least one metal element selected from Ti and Ag or is selected from Ti and Mg. (See, Yamada "367, paragraphs 24 and 28). Yamada also discloses an electrode material represented by the general formula (II):



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wherein B denotes "plural" metal elements selected from among Ti, Fe, Zn Mg and Co. (See, Yamada '367, paragraph 33).

In contrast, new independent Claim 84 recites, among other things, a battery comprising an electrode active material represented by the general formula (III):



wherein, among other things, *MI is selected from the group consisting of  $Li^{1+}$ ,  $K^{1+}$ ,  $Na^{1+}$ ,  $Ru^{1+}$ ,  $Cs^{1+}$ , and mixtures thereof*. New independent claim 103 recites, among other things, a battery comprising an electrode active material represented by general formula (111), wherein  $0 < e \leq 1$ . Finally, new independent claim 139 recites, among other things, a battery comprising an electrode active material represented by general formula (III), wherein  $d = 3$ .

The Examiner has asserted that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the compound of Yamada '367 by replacing MI, Z, d, the first and second electrode, and [sic] electrolyte with the MI, Z, d, the first and second electrode and electrolyte of Barker because both are concerned with lithium phosphates of the same formula." (See, Paper No. 20050516, pg. 11, emphasis added).

Yamada '367 and Barker '333 are not concerned with lithium phosphates of the same formula or crystal structure. The electrode active materials of Yamada '367, as represented by the general formulas (I) and (11) herein, have an *olivine* structure. (See, Yamada '367, col. 5, 11. 3). In contrast, electrode active materials of Barker '333, as represented by general formula (IV) herein, have a NASICON structure. (See, Barker '333, col. 14, 11. 14). Furthermore, Yamada's

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general formulas (1) and (11) clearly differ from Barker's general formula (IV). For example, general formulas (1) and (11) describe an olivine electrode active material having a phosphate-only polyanion moiety, whereas general formula (IV) describes a NASICON electrode active material having a phosphate/silicate polyanion moiety, wherein the oxygen of the polyanion moiety is stiochiometrically substituted with a halogen.

Furthermore, both references lack any teaching which would *suggest* to one of ordinary skill in the art to pick-and-choose from among the multitude of possible selections for MI, MII, a, x, b, y and c of Barker's general formula (IV), then modify the electrode active materials described in Yamada '367 (or vice-versa), in order to arrive at Applicants' claimed electrode active materials. Stated differently, both references lack any teaching which would motivate one with ordinary skill in the art to pick-and- choose from among the multitude of possible substitutions for MI, MII, Z, a, x, b, y and c of Barker's general formula (IV), then pick pick-and-choose from among the possible substitution for A, B, x, y and z of Yamada's general formulas (I) and (II), and then somehow combine those teachings in order to arrive at Applicants' claimed electrode active materials. Also, one of ordinary skill in the art would not be motivated to modify an electrode active material having a NASICON structure by incorporating the feature of an active electrode material having an olivine structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas H Parsons  
Examiner  
Art Unit 1745

  
**PATRICK JOSEPH RYAN**  
**SUPERVISORY PATENT EXAMINER**

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